

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PJ3798/OD	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2005/002638	International filing date (<i>day/month/year</i>) 10 March 2005 (10.03.2005)	Priority date (<i>day/month/year</i>) 10 March 2004 (10.03.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant RENAULT S.A.S.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i>.1(a).</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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<input type="checkbox"/> Box No. VIII	Certain observations on the international application															

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 13 September 2006 (13.09.2006)</p>
	<p>Authorized officer</p> <p>Agnes Wittmann-Regis</p> <p>e-mail: pt06@wipo.int</p>

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 29 NOV 2005

WIPO PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/002638

International filing date (day/month/year)
10.03.2005

Priority date (day/month/year)
10.03.2004

International Patent Classification (IPC) or both national classification and IPC
G06F17/50

Applicant
RENAULT S.A.S.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/002638

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/002638

Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	7
	No: Claims	1-6, 8-11
Inventive step (IS)	Yes: Claims	
	No: Claims	1-11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

- 1 Reference is made to the following document:

D1 : US 5 394 347 A (TREMBLAY SYLVIA C ET AL) 28 February 1995 (1995-02-28)

2 INDEPENDENT CLAIMS 1, 9 - 11

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document) a method of designing a validation environment for a service (abstract), the service being implemented by an embedded electrical system (col. 1, lines 6-9), the method comprising the steps of:

assigning to said service one or more user requests (col. 6, line 11 "events") and system responses thereto (col. 6, line 6 "transitions");

assigning to said service a behavioural automaton, said behavioural automaton fixing the allowed sequencing of said user requests and system responses (col. 5, line 64 "EFSM");

generating automatically a skeleton validation environment for said service (col. 29, line 28 "program shell places the path file"), in the form of a program executable on a simulation tool (col. 29, line 30, "for direct execution in the C language"), said skeleton validation environment comprising a testing automata (abstract, test program... to be tested and testing its functions a represented by the transition taken") produced from a traversal of said behaviour automata (abstract, "traversing the EFSM"), a model of initial conditions (col. 22, line 55, "declare and initialize variables"), models of user requests (col. 6, line 11 "events"), models of system response (col. 6, line 6 "transitions"), an environmental model and the dataflow and control flow assembling these models together (implied by the definition of the EFSM). D1 discloses further that said skeleton validation environment covering all user requests (col. 16, lines 26-29) and resultant system responses of said service (col. 30, lines 11-19), and

recording said skeleton validation environment in a computer readable memory device for use by a design validation tool (col. 17, lines 49-51). As D1

discloses all the features of claim 1 the subject-matter of said claim is not novel.

The same reasoning applies mutatis-mutandis to the subject-matter of the corresponding claims 9 - 11, which is therefore also considered not novel.

3 DEPENDENT CLAIMS 2 - 8

Dependent claims 2 - 8 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

- 3.1 D1 teaches further the assignment of functions implementing the requests and responses of the model (col. 29 line 64 "Force"; col. 30, line 11 "Verify(ringing, "Bell1")" and calling said functions by the verification model. The body of said functions has to be implemented by the user. Therefore said functions are de facto black box interfaces according to the terminology of the application. As this corresponds to the subject-matter of claims 2 and 3 said claims lack novelty.
- 3.2 D1 discloses also that the validation environment comprises the compiled model (col. 10, lines 51-59). As this corresponds to the subject-matter of claim 4, said claim lacks novelty.
- 3.3 D1 also teaches that the model may be specification, software or hardware implementation (col. 4, lines 30-34), therefore the subject-matter of claims 5 and 6 is also not novel.
- 3.4 D1 discloses further the assignment of a validation environment for several services (fig. 5, "RingBell1", "RingBell2") and yielding a validation environment for both services. Therefore claim 8 also lacks novelty.
- 3.5 The difference between the subject-matter of claim 7 and the teaching of D1 is that D1 does not disclose injection of faults into the model. The injection of faults, however, is an obvious and indeed a well-known solution to the problem of how to test a fault-tolerant system, which the skilled person would apply without exercising

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

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any inventive activity. Therefore the subject-matter of claim 7 lacks an inventive step.